SPECIAL MASTER'S RECOMMENDED CONSTRUCTIONS
PATENT NO. 6,425,035 B2

Term	Special Master's Recommended Construction
Device	No Construction Necessary.
Implement access controls for storage space on the storage devices.	"Provides controls which limit a device's access to a specific subset of storage devices or sections of a single storage device according to a map."
Allow access from devices…to the storage devices using native low level, block protocol.	"Permit or deny access using the NLLBP of the Virtual Local Storage without involving a translation from high level network protocols or file system protocols to a native low level block protocol request."
Native low level block protocol (NLLBP)	"A set of rules or standards that enable computers to exchange information and do not involve the overhead of high level protocols and file systems typically required by network servers."
Workstation	"A computer having input/output devices intended for use by humans."
Access control(s)	"Controls which limit a device's access to a specific subset of storage devices or sections of a single storage device according to a map."

Special Master's Proposed Construction of Disputed Terms

Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
Claim 1:					
A storage router for providing virtual local storage on remote storage devices to **devices, comprising:**	**Device:** "Computing device that issues storage access requests."	**Device:** **Intrinsic:** Claim 1,[1] Col. 9, ll. 27-30 ("devices" refers to the devices that make requests and are allowed access to storage devices). Col. 1, ll. 36-37; Col. 2, ll. 4-5; Col. 4, ll. 55-56; Col. 8, ll. 65-68 (the specification describes the devices that make requests to access the storage devices as "computing devices"). Col. 1, ll. 57-60 ("from the perspective of a workstation, or other computing device, seeking to access such server data, the access is much slower than access to data on a local storage device ").	**Device:** Computer.	**Device:** **Intrinsic Evidence:** 1:37-39[2], 47-49, 57-60 4:29-33 ("Storage router 56 combines access control with routing such that each workstation 58 has controlled access to only the specified partition of storage device 62 which forms virtual local storage for the workstation 58.") 4:39-40 4:58-59 ("no access from a workstation 58 is allowed to the virtual local storage of another workstation." Cf. Fig. 2 and Fig. 3 -- First Reexam Reply[3] at 8-9, 15 --	No Construction Necessary.

United States Patent No. 6,425,035 B2

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[1] United States Patent No. 6,425,035 ("the '035 Patent") and United States Patent No. 7,051,147 ("the '147 Patent") share a common specification. To facilitate cross-referencing, unless noted otherwise, all Col:Line cites in the charts of proposed claim constructions are to the '035 Patent.
[2] As in the claim construction briefs previously submitted to the Court, all specification citations are to the '035 patent unless otherwise noted.
[3] For the sake of clarity, commonly cited documents are referenced in the "Defendants' Evidence" column by the abbreviated names used in prior briefing. A table of these abbreviations was included in Defendant's Reply Post-Hearing Brief and is also appended to this table.

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		Claim 3, Col. 9, ll. 37-39 (principles of claim differentiation require "devices," as a group, must necessarily be broader than "workstations"). Col. 6, ll. 31-41, 46-56 (the specification describes "servers" as a type of computing device that can make storage access requests). Abstract, Col. 1, ll. 21-24, ll. 36-37, ll. 53-56; Col. 2, ll. 4-6; Col. 3, ll. 3-6, 41-43; Col. 4, ll. 38-42, ll. 55-56 Col. 6, ll. 45-55; Col. 8, ll. 65-68 ("devices" is used broadly to refer to various computing devices such as workstations, input/output devices, "initiator" and "target" devices). April 6, 2005 Reply to Office Action at 8, 10, 12, 22, Fore Decl. ISO Crossroads' Post-Hr'g Cl. Const., Ex. E; July 22, 2005 Reply to Office Action at 7-15,		Second Reexam Reply at 7, 8, 8-15 passim, 16, 17, 22, 23, 28, 39-40 Second Reexam Reply at 7 ("The invention of the '035 patent further provides the security feature of providing access controls in order to control which storage devices (or portions thereof) any particular host computer can access.") Second Reexam Reply at 8 ("Thus, the present invention…allows the host computers to access the remote storage devices over the network….") Second Reexam Reply at 15 ("In summary, the invention of the '035 Patent provides a networked storage solution that combines the ability to allow access from host computers to remote storage devices using NLLBPs with the ability to control access	

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		21-23, 27-29, 32, 33, 35-37, 39, Fore Decl. ISO Crossroads' Post-Hr'g Cl. Const. Br., Ex. F ("Device" is used over ninety times in the reexamination prosecution history to refer to types of devices capable of making requests for storage). **Extrinsic:** April 28, 2011 2d Supp. Decl. of John Levy, Ph.D., ¶ 4 (one of ordinary skill would understand that in the embodiments at Col. 6, ll. 33-41; 46-56, it is the server that sends requests for storage access to the storage router using NLLBP). The McGraw-Hill Illustrated Dictionary of Personal Computers 126 (4th ed. 1995), Fore Decl. ISO Crossroads' Cl. Const. Br., Ex. W (defining device as "a mechanical, electrical or electromechanical contrivance or appliance. Commonly		between host computers and the remote storage devices...." Second Reexam Reply at 16 ("The present invention as recited in Claim 1 thus enables computers to access remote storage devices....") Second Reexam Reply at 35 (Spring "does not teach access controls as defined by the '035 Patent"; "in contrast to the invention of the '035 Patent, this [access control] methodology described in Spring does not limit access of particular workstations to specific assigned subsets of storage devices or portions thereof.") **Extrinsic Evidence** Jt. Ex. 109, *Crossroads v. Chaparral*, Joint Claim Construction Order at 3 Crossroads' argument that "implements access controls" should be construed as "provides	

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		used in reference to peripherals such as printers, CRTS and disk drives"). Hr'g Tr. at 202:24-203:3, 205:4-7, Mar. 8, 2011 (Defendants' counsel agreeing that the defining characteristic of a device is that it is the thing that issues storage requests). May 11, 2011 3d Supp. Decl. of John Levy, Ph.D., ¶3 (a "network server" is a server that can request access to storage). <u>Microsoft Computer Dictionary</u> 430 (3d Ed. 1997), May 11, 2011 3d Supp. Decl. of John Levy, Ph.D., Ex. A (defining "server" as "(1) on a local area network (LAN), a computer running administrative software that controls access to the network and its resources, such as printers and disk drives, and provides resources		controls which limit a computer's access") Def. Ex. 19, Rudolf Graf, *Modern Dictionary of Electronics* (1999) at 353 Def. Ex. 20, *Microsoft Computer Dictionary* (5th ed. 2002) at 256 Berg Decl. ¶ 59-63.	

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		to computers functioning as workstations on the network"). Special Master's Report at 22, *Dot Hill* Litigation, Pl.'s Cl. Const. Hr'g Ex. P-15 (Court previously construed "storage router" as "a data transmitting device that allows users to integrate different servers or workstations into a storage network").			
a buffer providing memory work space for the storage router; a first controller operable to connect to and interface with a first transport medium; a second controller operable to connect to and interface with a second transport medium; and a supervisor unit coupled to the first controller, the second controller and the buffer, the supervisor unit operable to map between devices connected to the first	**Implement access controls for storage space on the storage devices:** "Provides controls which limit a device's access to a specific subset of storage devices or sections of a single storage device according to a map."	**Implement access controls for storage space on the storage devices:** **Intrinsic:** Fig. 3, Col. 3, ll. 7-59, Col. 4, ll. 7-27, 33-35, 40-43, 48-50, 50-53 (Fig. 3 shows embodiment in which all workstations can access global storage device). Col. 4, ll. 7-11 ("access controls" applies to shared storage).	**Access controls:** Controls that use a map to permit a particular device to read data from or write data to a particular storage space assigned to the device, and to prevent the device from reading data to or writing data from storage space assigned to other devices.	<u>**Intrinsic Evidence**</u> 3:30-32, 56-59 ("FIG. 2..., indicated generally at 30, with a storage router that provides global access and routing.... Storage router 44 uses tables to map devices from one medium to the other and distributes requests and data across Fiber Channel 32 and SCSI bus 34 without any security access controls.") 4:17-24, 26-27 ("As shown in FIG. 3, for	"Provides controls which limit a device's access to a specific subset of storage devices or sections of a single storage device according to a map."

	Special Master's Proposed Construction of Disputed Terms				
Actual Claims Language	**Crossroads' Proposed Construction**	**Crossroads' Evidence**	**Defendants' Proposed Construction**	**Defendants' Evidence**	**Special Master's Construction**
transport medium and the storage devices, to **implement access controls for storage space on the storage devices** and to process data in the buffer to interface between the first controller and the second controller to allow access from devices connected to the first transport medium to the storage devices using native low level, block protocols.		July 22, 2005 Reply to Office Action at 13-14, Fore Decl. ISO Crossroads' Post-Hr'g Cl. Const. Br., Ex. F (discussion during reexamination, that the "access controls" feature includes the concept of allowing multiple devices to have access to shared storage). **Extrinsic:** *Chaparral* Markman Order at 3-7, 15, Fore Decl. ISO Crossroads' Cl. Const. Br., Ex. L (Crossroads' construction parallels historic construction; the invention contemplates using access controls for an entire storage device as well as shared storage; Court has rejected a construction in which a particular subset of storage could only be accessed by a single workstation). Comments on Statement of Reasons for Patentability and/or		example, storage device 50 can be configured to provide global data 65 which can be accessed by all workstation 58. Storage device 62 can be configured to provide partitioned subsets 66, 68, 70 and 72, where each partition is allocated to one of the workstations 58 (workstations A, B, C and D). These subsets 66, 68, 70 and 72 can only be accessed by the associated workstation 58 and appear to the associated workstation 58….Similarly, storage device 64 can be allocated as storage for the remaining workstation 58 (workstation E)." Fig. 3 -- First Reexam Reply at 13 ("[T] the access controls provide the capability to permit or deny each computer access to a particular storage device, a set of storage devices or	

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		Confirmation, Fore Decl. ISO Pl.'s Cl. Const. Br., Ex. I (patentees expressly disagreed with any characterization of the claims that were "inconsistent with the claim language, specification or prior prosecution history.").		portions of a single storage device or devices (or any combination thereof). By assigning storage devices or portions thereof to particular computer workstations, the present invention prevents each computer workstation from overwriting or modifying data in storage assigned to another computer workstation.") First Reexam Reply at 33 ("The access controls of claim 1 thus permit or deny access from particular host devices connected to the first data transport medium to particular storage devices (or subsets thereof) according to a map that associates the host devices with the remote storage devices....") -- Second Reexam Reply at 13 ("By assigning storage devices or portions thereof to	

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	Special Master's Proposed Construction of Disputed Terms				
Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
				particular computer workstations, the present invention prevents each computer workstations [sic] from overwriting or modifying data in storage assigned to another workstation"). Second Reexam Reply at 33 ("To implement access controls requires more than simply allowing a host to have access to a storage device. Implementing access controls is a security measure designed to prevent unauthorized access from workstations to particular storage devices or subsets of storage as claimed and described in the '035 Patent.") Second Reexam Reply at 33 ("The access controls of the '035 Patent depend on the map discussed above to control access....In other words, the storage to which	

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
				each workstation is permitted access is controlled through the use of the map….The access controls…thus permit or deny access from particular host devices connected to the first data transport medium to particular storage devices (or subsets thereof) according to a map that associates the host devices with the remote storage devices." Def. Ex. 8, NIIRC ("the map/mapping feature…is a one-to-one correspondence…where by the router forms the connection between two separate entities over different transport mediums.") -- U.S. Pat. ___ '036 patent Reply to Office Action at 15 U.S. Pat. 6,421,753 Patent Reply to Office Action at 12 U.S. Pat. 6,738,854	

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
and a supervisor unit coupled to the first controller, the second controller and the buffer, the supervisor unit operable to map between devices connected to the first transport medium and the storage devices, to implement access controls for storage space on the storage devices and to process data in the buffer to interface between the first controller and the second controller to **allow access from devices connected to the first transport medium to the storage devices using native low level, block protocols.**	**Allow access from devices ...to the storage devices using native low level block protocols:** "Permit or deny reading or writing of data using the NLLBP of the Virtual Local Storage without involving a translation from a high level file system command to a native low level, block protocol request."	**Allow access from devices ...to the storage devices using native low level block protocols:** **Intrinsic:** Fig. 1, Col. 1, ll. 49-54; Col. 3, ll. 17-23 (the "storage router" of the invention is contrasted with a "network server" that allowed access to storage devices by translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, ll. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices using native low level,	**Allow access...to the storage devices using native low level, block protocols:** Permit reading and writing of data in the native low level, block protocol of the storage device, without involving network servers, Ethernet networks, higher-level protocols such as TCP/IP, Ethernet protocols, network protocols or file system protocols, or translation from one protocol to another.	patent Reply to Office Action at 19 U.S. Pat.5,942,972 Reply to Office Action at 13. **IN GENERAL – Intrinsic Evidence** 1:43-46 -- First Reexam Reply at 8 ("features of the present invention...also allow a host (or hosts) to communicate with storage devices using only native low level block protocols.") (emphasis added) First Reexam Reply at 10 (system in which "at least one high level to low level translation takes place between the workstation and the storage device" reflects prior art, not the alleged invention) First Reexam Reply at 19 ("Petal, on the other hand, teaches a system in which a Petal client issues high level	"Permit or deny access using the NLLBP of the Virtual Local Storage without involving a translation from high level network protocols or file system protocols to a native low level block protocol request."

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		block protocols" (emphasis added); the storage router, specifically, the supervisor unit within the storage router, "uses" the NLLBP to permit or enable access).		commands....Consequently, the Petal server does not allow the Petal clients to access the storage devices using an NLLBP"),	
		Col. 4, ll. 7-47 (invention of patents-in-suit provides "virtual local storage" that appears to a workstation as local storage, and appears to have the same characteristics of local storage).		First Reexam Reply at 23 --	
		Col. 4, ll. 44-57 ("virtual local storage" is "provided" by the storage router in a manner that is transparent to the devices requesting storage access).		Second Reexam Reply at 16 ("Spring and Oeda, in contrast to the invention of the '035 Patent...require the use of higher level network protocols (and therefore cannot allow access to the remote storage devices using NLLBPs). Thus, these references suffer the shortcomings of exactly the type of prior art the present invention was designed to overcome.")	
		Col. 5, ll. 11-17, ll. 24-27 (supervisor unit within the storage router processes NLLBP requests from the devices to access permitted storage).		IN GENERAL – Extrinsic Evidence Berg. Decl. ¶¶ 14-29, 36-58	
		Abstract; Col. 2, ll. 12-		Levy Decl. ¶ 36 ("the invention of the Patents-	

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	Special Master's Proposed Construction of Disputed Terms				Special Master's Construction
Actual Claims Language	**Crossroads' Proposed Construction**	**Crossroads' Evidence**	**Defendants' Proposed Construction**	**Defendants' Evidence**	
		15, 17-20, 24-27; Col. 3, ll. 59-63; Col. 3, ll. 51-53; Col. 4, ll. 2-6; Col. 5, ll. 1-5; Col. 9, ll. 28-31; Col. 10, ll. 9-11 (specification discloses that NLLBPs are used by, and at, the storage router to allow access).		in-Suit enables the workstation to send an NLLBP to the storage router in order to make a request for data.")	
				WITHOUT INVOLVING NETWORK SERVERS – Intrinsic Evidence	
		Col. 6, ll. 33-41, 46-56 (specification describes two embodiments wherein "devices" making the storage access request are servers).		1:47-60, 2:51-52, 2:67-3:9, 3:16-25 (describing problems of network server-based systems)	
		Col. 1, ll. 57-60 ("from the perspective of a workstation, or other computing device, seeking to access such server data, the access is much slower than access to data on a local storage device ").		1:50-54 ("Access to data through the network server is through a network protocol that the server must translate into low level requests to the storage device")	
		Claim 3, Col. 9, ll. 37-39 (principles of claim differentiation require "devices," as a group, must necessarily be broader than "workstations").		3:32-34 ("significantly different from FIG. 1 in that there is no network server involved")	
		Col. 3, ll. 17-23 (the		5:1-5 (access is "accomplished without limiting the performance of workstations 58 because storage access involves native low level, block	

Special Master's Proposed Construction of Disputed Terms

Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		"network protocol" used by the prior art "network servers" to allow access to storage devices is a protocol that includes a high level file system command that must be translated into low level storage requests). April 6, 2005 Reply to Office Action at 10-11, Fore Decl. ISO Crossroads' Post-Hr'g Cl. Const. Br., Ex. E; July 22, 2005 Reply to Office Action at 24-27, Fore Decl. ISO Crossroads' Post-Hr'g Cl. Const. Br., Ex. F (Crossroads distinguished Petal, Spring and Oeda as having a server that provided controlled access to storage was required to translate high level file system commands into low level commands in order to send the NLLBP to the storage devices). April 6, 2005 Reply to Office Action at 8-11, 19, 22-23, Fore Decl.		protocols and does not involve the overhead of high level protocols and file systems required by network servers.") -- First Reexam Reply at 8-9 (distinguishing Petal on basis that workstation must create network protocols to communicate with network server) First Reexam Reply at 9-10 (noting that use of a network server necessarily involves translation to higher level protocols) First Reexam Reply at 11 ("the Petal system does not allow the client (i.e. workstation) to access the storage devices using an NLLBP....[W]hile the Examiner has pointed out various portions of Petal that discuss using block level (i.e. low level) storage protocols, it is only in the context of the time period after high level RPCs have	

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		ISO Crossroads' Post-Hr'g Cl. Const. Br., Ex. E; July 22, 2005 Reply to Office Action at 11-17, 21-28, Fore Decl. ISO Crossroads' Post-Hr'g Cl. Const. Br., Ex. F (showing that Crossroads did not make a sweeping disclaimer of *any* use of a "network server"; Crossroads distinguished its invention from Oeda, Petal and Spring based on the requirement that the "network server" that provided controlled access to storage was required to translate the high level file system command into low level commands in order to send the NLLBP to the storage device, not the use of Ethernet networks, Ethernet or TCP/IP). Col. 2, ll. 17-20; Col. 5, ll. 19-22, 50-57, 60-63; Col. 6, ll. 32-37; '147 Patent, Claim 1, Col. 9, ll. 28-32 (disclosing and claiming embodiments using Fibre Channel; the inclusion of "without		been transformed to low level SCSI commands. The system of Petal is the type of system that the present invention was designed to overcome....") -- Second Reexam Reply at 10, 12, 13, 22 Second Reexam Reply at 9-10 ("A problem with this prior art solution was that the network server creates a bottleneck which slows down remote access because, at least in part, the computer or workstation needs to create something called a 'network protocol' to send the data over the distance-capable transport medium. Thus, the introduction of a network server into the system creates a bottleneck which slows down access to remote storage devices.") (citing '035 patent at 1:47-54) Second Reexam Reply	

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		involving . . . network protocols" according to Defendants' expert would prohibit the use of Fibre Channel despite the fact that these are express embodiments). Col. 5, ll. 53-56 (Fibre Channel is a protocol used for communications over "Fibre Channel based networks"). **Extrinsic:** March 7, 2011 Supp. Decl. of John Levy, Ph.D., ¶¶ 9-13 (data transfer in networks best understood as having layers; when TCP/IP and Ethernet protocols were used by prior art systems to transport high level network file system requests, a network server would translate such requests into low level requests to access storage); ¶¶ 6-7 (prior art "server" described in patents-in-suit was specifically a device that allowed access between the		at 11 ("It takes the computer time to create a network protocol") Second Reexam Reply at 13 (the invention "does away with the time consuming and complex steps of creating and processing higher-level network protocols at a server.") (emphasis added) Second Reexam Reply at 13 ("The present invention thus routes NLLBPs to the remote storage devices without involving a network server.") Second Reexam Reply at 10-13 (Graphics 2-4). Second Reexam Reply at 22 (workstation must create network protocols to communicate with network server) Second Reexam Reply at 22 ("This ability to allow access from host computers to storage devices using a NLLBP, as recited in Claim 1, requires allowing access	

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Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		device requesting "access to data" and the storage devices using something called a "network protocol"; such "servers" implemented file systems and received high level file system protocols from devices requesting data access). April 28, 2011 2d Supp. Decl. of John Levy, Ph.D., ¶4 (person of ordinary skill would understand that the specification discloses a server that sends requests for storage access to a storage router using NLLBP). May 11, 2011 3d Supp. Decl. of John Levy, Ph.D., ¶3 (a "network server" is a server that can request access to storage). Microsoft Computer Dictionary 430 (3d Ed. 1997), May 11, 2011 3d Supp. Decl. of John Levy, Ph.D., Ex. A (defining "server" as "(1) on a local area		between the host and storage device(s) using a protocol (i.e., a set of rules) that does not involve the overhead of high level protocols and file systems typically required by network servers.") Second Reexam Reply at 22 ("As discussed above, in systems prior to the present invention, when making a request to storage through a network server…, a workstation first had to translate the requests from its file system protocols to higher level network protocols in order to communicate with the network server, and the network server would then translate them into low level requests to the storage device(s)….") Second Reexam Reply at 23 ("Using the example of a first transport medium of Fibre Channel ("FC") and a second transport medium of SCSI, a FC	

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		network (LAN), a computer running administrative software that controls access to the network and its resources, such as printers and disk drives, and provides resources to computers functioning as workstations on the network").		workstation can communicate SCSI commands to a storage device using the FC protocol through the storage router.") --	
		Special Master's Report at 22, *Dot Hill* Litigation, Pl.'s Cl. Const. Hr'g Ex. P-15 (Court previously construed "storage router" as "a data transmitting device that allows users to integrate different servers or workstations into a storage network").		'147 Reply at 13 (noting that use of a network server necessarily involves translation to higher level protocols); '147 Reply at 13 ("Thus the Specification points that a native low level block protocol is one that does not involve the overhead of high level protocols used by network servers").	
		Hr'g Tr. 76:4-10, 82:20-23, March 8, 2011 (in hypothetical network of Graphic 2 of Defendants' Markman Demonstratives (Fore Decl. ISO Pl's Post-Hr'g Cl. Const. Br., Ex. J) the workstation sends high level file systems commands to network		**WITHOUT INVOLVING NETWORK SERVERS – <u>Extrinsic Evidence</u>** Horst Decl. ¶ 16. Horst Decl. ¶ 16-18. Second Reexam Reply at 9-10 ("In typical prior art systems...to overcome the inability	

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		server); *Id.* at 200:2-5, 201:22-24, 202:24-203:3 (Defendants expressly stated that a "device" is a "computer" that is both "reading or writing data from a storage device" and sending NLLBPs and the only "device" that does so in Graphic 2, shown in Crossroads' Post-Hearing Brief is the "network server"). Crossroads' Concise Statement of Infringement, *Dot Hill* Litigation (Case No. A-03-CV-754 SS), Fore Decl. ISO Pl.'s Post-Hr'g Cl. Const. Br., Ex. H; April 28, 2011 2d Supp. Decl. of John Levy, Ph.D., ¶5 (accused devices in *Dot Hill* litigation were designed to be used in hypothetical system shown in Graphic 2 of Defendants' Markman Demonstratives (Fore Decl. ISO Pl.'s Post-Hr'g Cl. Const. Br., Ex. J)). Hr'g Tr. at 81:12-15,		of a SCSI-to-SCSI system to provide remote storage…workstations were connected to a network server using a distance capable network transport medium and a network protocol such as Ethernet.") Horst Decl. ¶ 15 ("Before Crossroads' invention of the '035 Patents, a network server (also known as a network file server) was the way networked computers connected to remote storage") Horst Decl. ¶¶ 16-17 ("A network file server creates a bottleneck that slows down remote access. This is because the "computer or network server needs to use a high level 'network protocol' request to communicate with the network server. This introduces delay into the storage access process….")	

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		March 8, 2011 (all parties agree that the Petal, Spring and Oeda references disclose systems with a "server" interposed between workstations and storage devices); *Id.* at 88:2-89:16; 93:4-7; 100:16-24 (Defendants agree that the "translation" distinguished by patentees during reexamination was from high level file system commands into NLLBP requests); *Id.* at 89:11-16 (parties agree that "allowing access . . . using NLLBP" occurs without a translation from a high level file system command to a NLLBP request); *Id.* at 91:14-16, 92:1-5, 152:4-7 (Defendants concede that the "network protocols" described in the Oeda, Petal and Spring references included file system commands thus, including "without involving . . . network protocols" is superfluous to "without		Horst Decl. ¶ 18. Levy Decl. ¶ 28-30 Levy Decl. ¶ 29 ("The use of a network file server introduces a bottleneck because the workstation takes time to translate its file system protocols to network protocols and the network server takes time to process the network protocol in order to issue the appropriate native low level block commands to the storage device to satisfy the request received from the workstation.") Levy Decl. ¶ 29-30 (in order to read and write data through a file server, tworkstation must issue multiple commands (create, open, read or write, and close) which the server must execute) Levy Decl. ¶ 30 ("The various steps to create, open, read, write and close files can be	

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